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Using IUID to Serially Manage Inventory

Ms. Kathy Smith
Office of the Deputy Assistant Secretary of
Defense
Supply Chain Integration

March 10, 2011



Agenda

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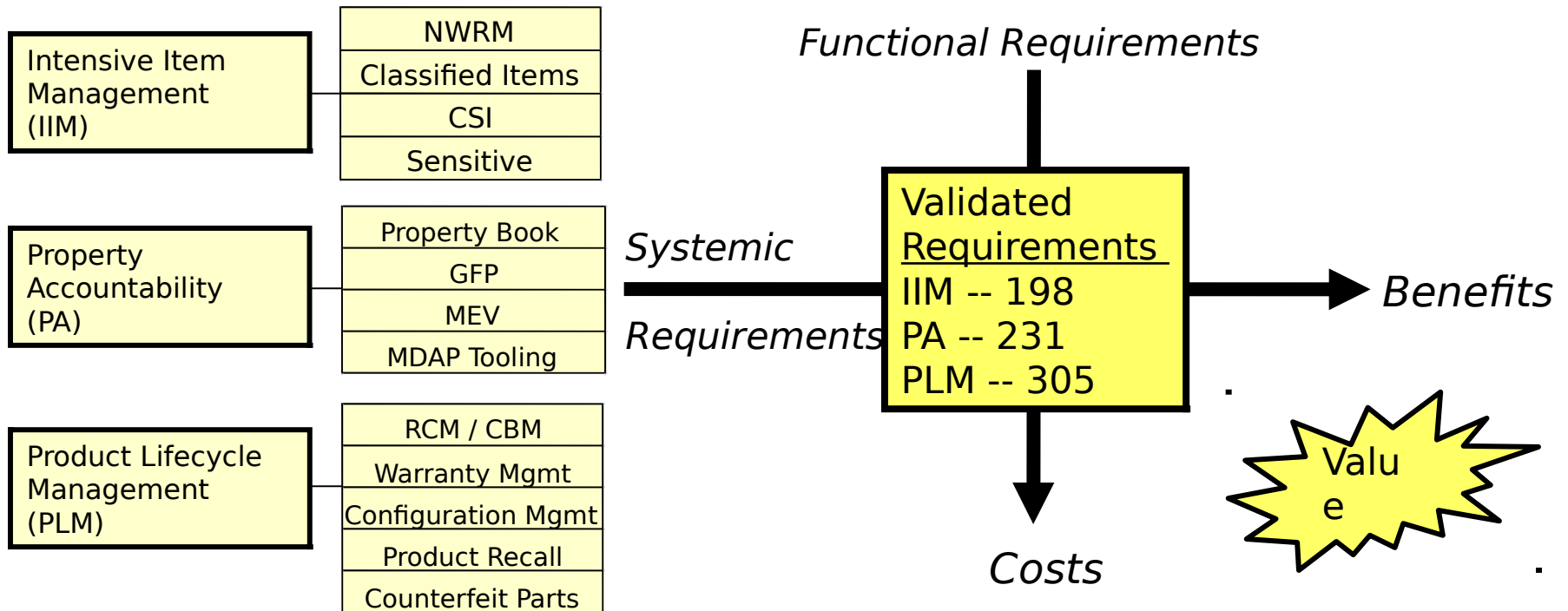
- Finding the Value...JLB IUID Task Force
- Serialized Item Management (SIM)
 - Implementation Workshops
 - Definition of Serialized Item Management
- Uses of IUID-enabled SIM in Supply
- Levels of Intensive Management
- Emerging Policy for Secondary Items
- The Way Ahead



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Finding the Value - JLB IUID Task Force (April 2010)

Acq Log Plannin g	Acq & Supplie rs	Distrib Centers	Transpo rt	Base & Fwd Supply	Field Activitie s & Opns	Field Maint	Depot Maint	In Serv Engr & Log Analy	Disposa l





Scope of Serialized Item Management Implementation Workshops

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- Enhancing business processes for receipt, inventory, issue and discrepancy reporting
- Defining levels of management intensity
- Leveraging ERP capabilities

Secondary inventory items governed by DoD 4140.1-R



Expected Outcomes and Deliverables

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- Outcomes

- Enhanced business processes using IUID to serially manage items in the DoD logistics domain
- Enhanced data exchanges for IUID information across the DoD logistics domain

- Deliverables

- DoD-level policy/procedural updates
- Guidebook for IUID Enabled Serialized Item Management for Supply and Maintenance
 - Proposed/Approved DLMS changes (data exchanges/business rules)
 - Serialized Item Management Integrated Requirements Set
 - 1st Volume will be Supply and Maintenance (6 nodes)
 - 2nd Volume will be inclusive of all 10 supply chain nodes



Definition of Serialized Item Management By U

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- SIM by UII: Management and tracking of a select population of items that have a unique item level traceability requirement
 - Unique item level traceability is defined as the requirement to trace lifecycle management events related to acquisition, property accountability, storage, operation, maintenance, safety, physical security, retirement, and disposal by each individual item
 - “Individual item” is defined as a single instance of a stock-numbered item or a single assembly/subassembly
 - The need for unique item level traceability requirement is determined by the manager of the item (Materiel Manager, with recommendation from the Engineering Support Activity, for consumables and the Primary Inventory Control Activity (PICA) for reparable)
- Existence of a manufacturer’s serial number does not constitute a requirement for SIM...must meet at least one of the following:
 - DoD serially-managed sensitive, DoD serially-managed critical safety, and/or DoD serially-managed pilferable items
 - All depot-level reparable items
 - Any items that the program manager or materiel manager decides require unique item level traceability



Uses of IUID in Supply

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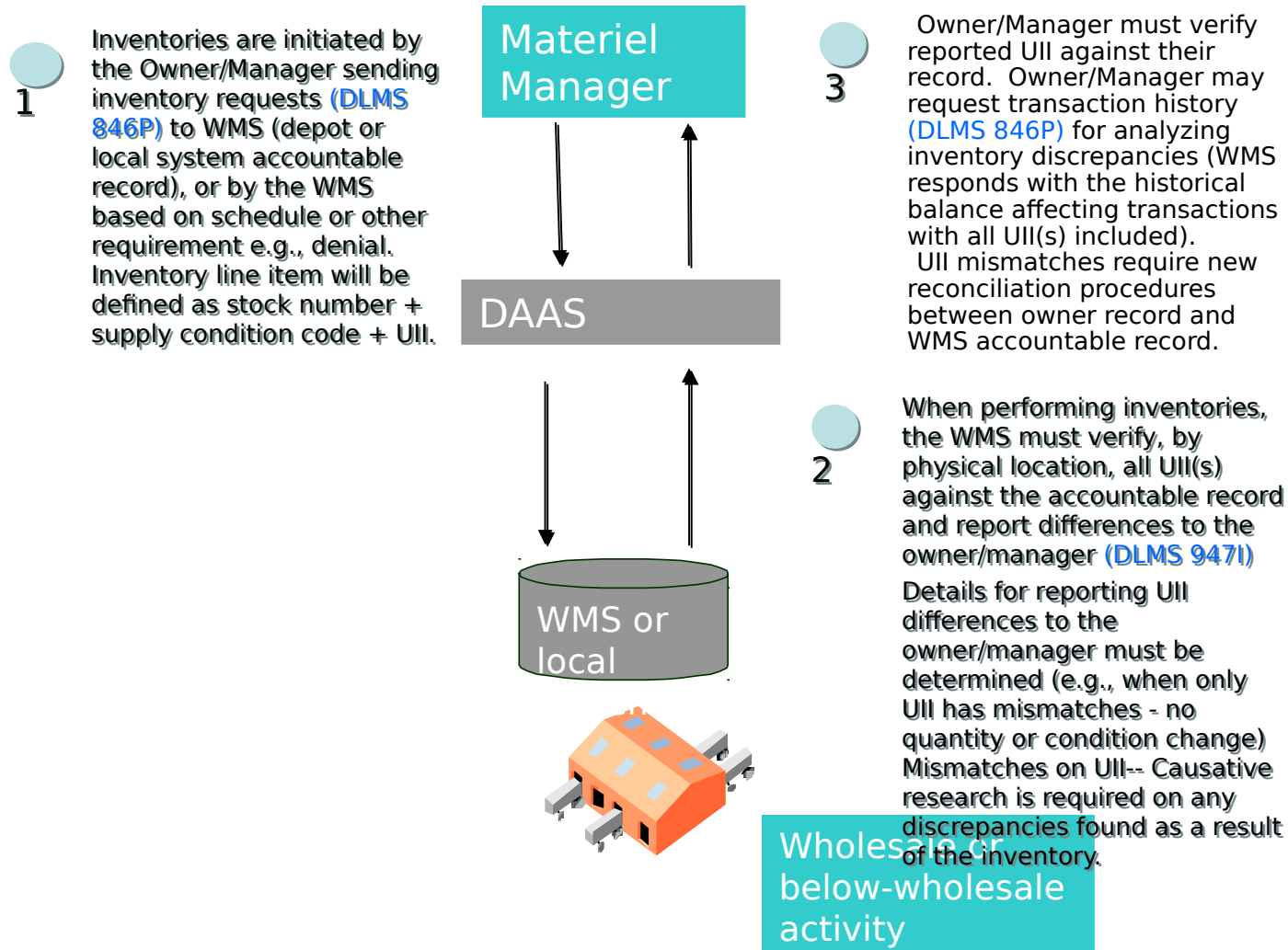
- **Receipt:** Capture of UII(s) upon receipt enables traceability to physical location of goods as they travel through supply chain nodes. Receivers will collect the UII(s) from exterior packaging, validate them against the shipment status/notice, and store information in the appropriate business system.
- **Acceptance:** Acceptance by UII(s) enables visibility and traceability to custodial changes. Upon acceptance, any discrepancies will be recorded by UII(s). For New Procurements, 'As Delivered' item configuration is reported to the IUID Registry for accepted UII(s).
- **Store:** Storage by UII is not required unless necessary to trace high intensity items in a facility.
- **Issue:** Issuing materiel by UII(s) enables traceability to the physical location of the UII(s) as goods travel to a downstream supply chain nodes. Wholesale and below wholesale activities will respond to requests by NSN/Quantity (MRO, LRO, RDO) and provide the UII(s) upon issuing materiel. This enables notification
- **Inventory:** Inventory by UII(s) enables synchronization and validation of owner and storage/managing activity records. The storage and/or managing activity will verify records by UII(s), and can provide history of balance affecting records by UII(s) to owners.

Traceability throughout the supply chain



INVENTORY USING IUID, e.g. Wholesale and below-wholesale activities perform inventory

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Levels of Supply Management Intensity

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Standard-intensity serialized management by UII

- Items that have a lifecycle traceability requirement, but do not require management by eaches on a daily basis
- Managed by UII in accountable records (storage activity)
- DoD serially managed items that are sensitive or pilferable or DoD serially managed critical safety items or depot level reparable

High-intensity serialized management by UII

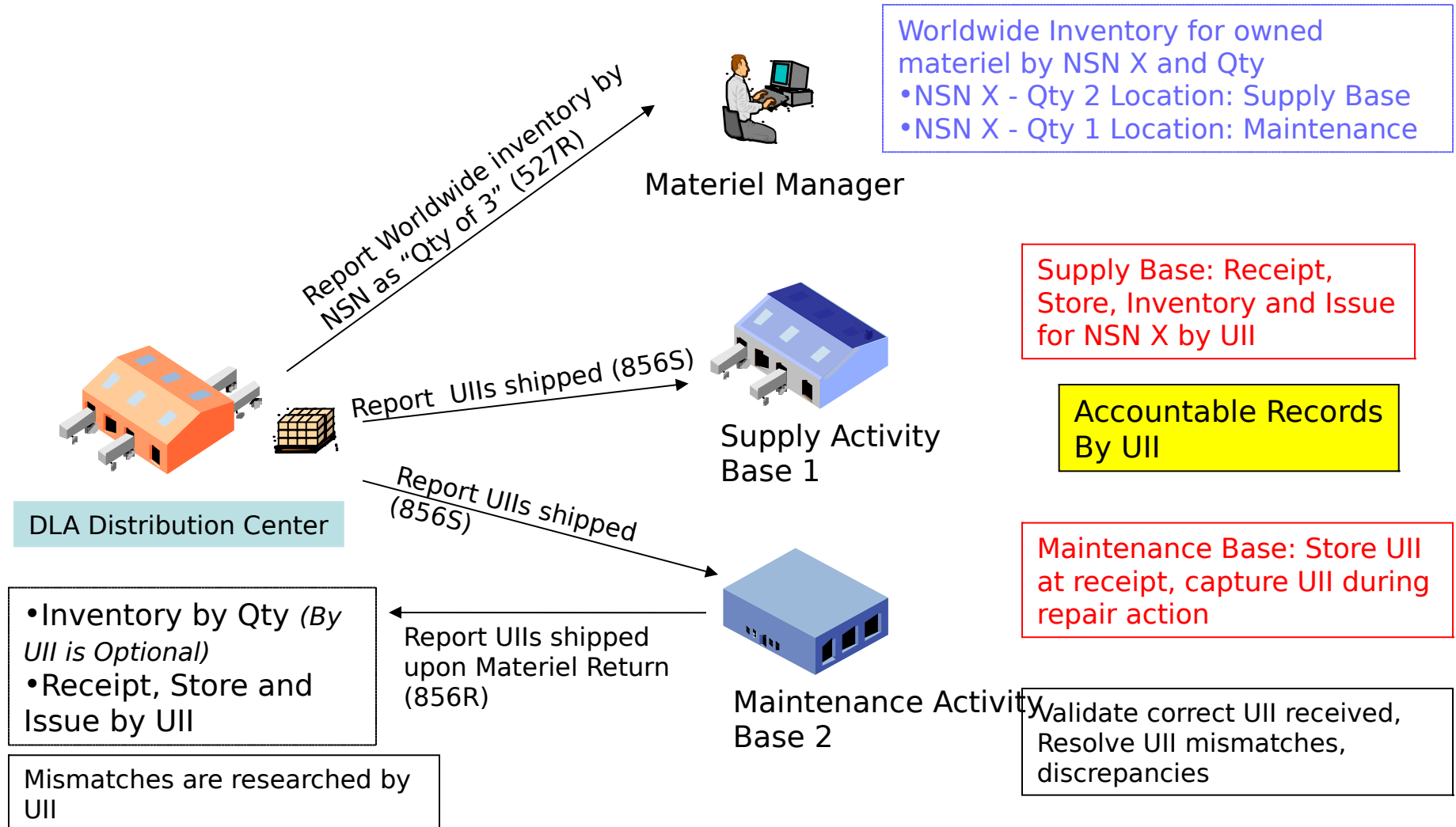
- Items with a lifecycle traceability requirement, that are “micro-managed” today
- Managed by UII in accountable records (storage activity) and owner records (ICP)
- Nuclear Weapons-Related Materiel (NWRM)

FLIS code under development will enable standard and high intensity



Standard-Intensity Serialized Management

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High-Intensity Serialized Management

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Receive NSN X with Qty 3

- UII - #1
- UII - #2
- UII - #3

Owner Records
By UII

Worldwide inventory for owned materiel
by NSN X and UII:

- UII #1 Location: Supply Base
- UII #2 & #3 Location: Maintenance Base

Daily reconciliation by UII on balance affecting transactions; resolve UII mismatches/discrepancies

Materiel
Manager

Report Worldwide Inventory by UII

Report UII
shipped

Supply Activity Base
1

Supply Base: Receipt,
Store, Inventory and Issue
for NSN X by UII:

- UII-#1

Accountable Records
By UII

Maintenance Base: Receipt,
Store, Inventory and Issue
for NSN X by UII:

- UII #2
- UII #3

Maintenance Activity
Base 2

Report 2 UIIs
shipped

Report UIIs shipped
upon Materiel Return
(856R)

UID Materiel

DLA Distribution Center

Receipt, Store,
Inventory
and Issue by UII
Mismatches are researched by
UII

Validate correct UII received;
Resolve UII mismatches,
discrepancies

ALL SUPPLY CHAIN NODES MANAGE AN ITEM BY UII



Levels of Supply Management Intensity Defined

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- High Intensity
 - Worldwide visibility and management of NSNs by UII where both owner and storage activities have visibility and traceability to the exact location of a serialized item in real time. Records between owner and storage activity are synchronized at least daily and differences reconciled by UII. Mismatches identified by receiving activities must be reported under Discrepancy Report business rules, and corrective action taken where appropriate.
- Standard Intensity
 - Visibility and management of NSNs by UII where only the local storage activity has visibility and traceability to the exact location of a serialized item in real time. The owner can query the local storage activity to locate the serialized item if required. Mismatches identified by receiving activities must be reported under Discrepancy Report business rules, and corrective action taken where appropriate.



Identifying IUID items – Proposed Code in FLIS

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- Assigned to each stock number (NSN) requiring SIM using the UII, as determined by the National Inventory Control Point (NICP)
- Indicates the level of management intensity required for the individual items within each IUID-eligible NSN
 - *Standard-intensity serialized management by UII* – managed by UII in accountable records
 - *High-intensity serialized management by UII* – managed by UII in accountable records and owner records
- Provides for an optional interim IUID Code ...
 - Applies to NSNs that require serial management by IUID but on which legacy assets on the NSN have not yet been IUID-marked
 - Enables the supply system to manage the item by the NSN with the legacy serial number in the interim until all legacy assets on the NSN have been marked with a UII
 - Once the legacy assets on the NSN have been marked with a UII, the code values will be updated to full serialized item management using the UII



Proposed IUID Code

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<u>CODE</u>	<u>EXPLANATION</u>
1A	High-intensity serialized management by UII. Worldwide visibility and management of NSNs by UII where both owner and storage activities have visibility and traceability to the exact location of a serialized item in real time. Records between owner and storage activities are synchronized at least daily and differences reconciled by UII. Mismatches identified by receiving activities must be reported under Discrepancy Report business rules, and corrective action taken where appropriate.
1B	Proposed High-intensity serialized management by UII (INTERIM). Applies to NSNs that require serial management by IUID but on which legacy assets on the NSN have not yet been IUID-marked in critical mass to allow system logic for supply chain management using the UII. This code will enable the storage activity to manage the item by the NSN in the interim until legacy assets on the NSN have been marked with a UII and contracts have been updated to include the IUID clause. Once the legacy assets on the NSN have been marked with a UII, the code value will be updated to full serialized item management by UII using the "1A" code value above.
2A	Standard-intensity serialized management by UII. Visibility and management of NSNs by UII where only the local storage activity has visibility and traceability to the exact location of a serialized item in real time. The owner can query the local storage activity to locate the serialized item if required. Mismatches identified by receiving activities must be reported under Discrepancy Report business rules, and corrective action taken where appropriate.
2B	Proposed Standard-intensity serialized management by UII (INTERIM). Applies to NSNs that require serial management by IUID but on which legacy assets on the NSN have not yet been IUID-marked in critical mass to allow system logic for supply chain management using the UII. This code will enable the storage activity to manage the item by the NSN in the interim until legacy assets on the NSN have been marked with a UII and contracts have been updated to include the IUID clause. Once the legacy assets on the NSN have been marked with a UII, the code value will be updated to full serialized item management by UII using the "2A" code value above.



Draft DoDM 4140.01M Policy

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MANAGEMENT OF CONTROLLED INVENTORY
SPECIAL REQUIREMENTS
MATERIEL PROGRAMS
MATERIEL DATA MANAGEMENT AND EXCHANGE
SUPPORTING TECHNOLOGIES
MATERIEL RETURNS, RETENTION, AND DISPOSITION
DELIVERY OF MATERIEL
MAKE AND MAINTAIN
MATERIEL SOURCING
DEMAND AND SUPPLY PLANNING
OPERATIONAL REQUIREMENTS



Department of Defense MANUAL

NUMBER 4140.01, Volume 1

USD(AT&L)

SUBJECT: DoD Supply Chain Materiel Management Procedures: Operational Requirements

References: See Enclosure 1

1. PURPOSE

a. Manual. This Manual is composed of several volumes, each containing its own purpose. In accordance with the authority in DoD Directive (DoDD) 5134.12 (Reference (a)), the purpose of the overall Manual is to reissue DoD 4140.1-R (Reference (b)) to develop requirements and procedures for DoD materiel managers and others who need to work within or with the DoD supply system consistent with DoDD 4140.1 (Reference (c)).

b. Volume. This Volume of this Manual implements policies in Reference (c) and describes procedures for supply chain materiel management processes dealing with supply chain operational requirements.

2. APPLICABILITY. This Volume applies to OSD, the Military Departments, the Office of the Chairman of the Joint Chiefs of Staff and the Joint Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities within the Department of Defense (hereafter referred to collectively as the "DoD Components").

3. DEFINITIONS. See Glossary.

4. POLICY. DoD supply chain materiel management policy is addressed in Reference (c)

5. RESPONSIBILITIES. See Enclosure 2.

6. PROCEDURES. See Enclosure 3.

Draft DoDM 4140.01-M:

- Provides guidance on supply chain materiel management
- Reorganized from a single regulation to a multi-volume manual
- Includes specific guidance on serialized management using the UII



Draft DoDM 4140.01M Policy

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(3) Unique item level traceability is required for all DoD serially managed items that are also sensitive or pilferable, all DoD serially managed critical safety items and all NWRM using a Unique Item Identifier (UII) assigned to each individual item, i.e. a single instance of a stock-numbered item or a single assembly or subassembly.

Unique item level traceability is also required for depot level reparables as well as any item that the materiel manager decides requires unique item level traceability. This requirement does not apply to lot-controlled assets.

Components shall begin to transition from serially managing these items using the manufacturer's serial number to serially managing the items using the globally unique and machine-readable UII (Construct #1 or #2 or acceptable equivalents) as defined in the "DoD Guide to Uniquely Identifying Items" at the IUID website.



Draft DoDM 4140.01M Policy (continued)

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While most items are accounted for by NSN, Components shall account for all DoD serially managed items that are also sensitive or pilferable, or DoD serially managed critical safety items or NWRM by UII within NSN or by serial number during the transition state until system changes implementing IUID are complete. These items shall be assigned a UII in accordance with DoD Instruction 8320.04 and a level of management intensity commensurate with the risk (high and standard). The Military Departments and DLA shall develop the capability to intensively manage these items as follows:

(a) For **high management intensity items** (NWRM):

1. Receipt, issue, and inventory processes or balance affecting actions to both the storage site asset balance record and the materiel manager asset balance record, will be conducted by UII within NSN.
2. Issuing activities will provide shipment notification or shipment accompanying documentation to the recipient identifying the NSN and UII provided.
3. When wholesale stocks are issued, whether from stock or direct delivery, the recipient, in addition to updating asset records by UII within NSN, will acknowledge receipt back to the wholesale materiel manager by UII.



Draft DoDM 4140.01-M Policy (continued)

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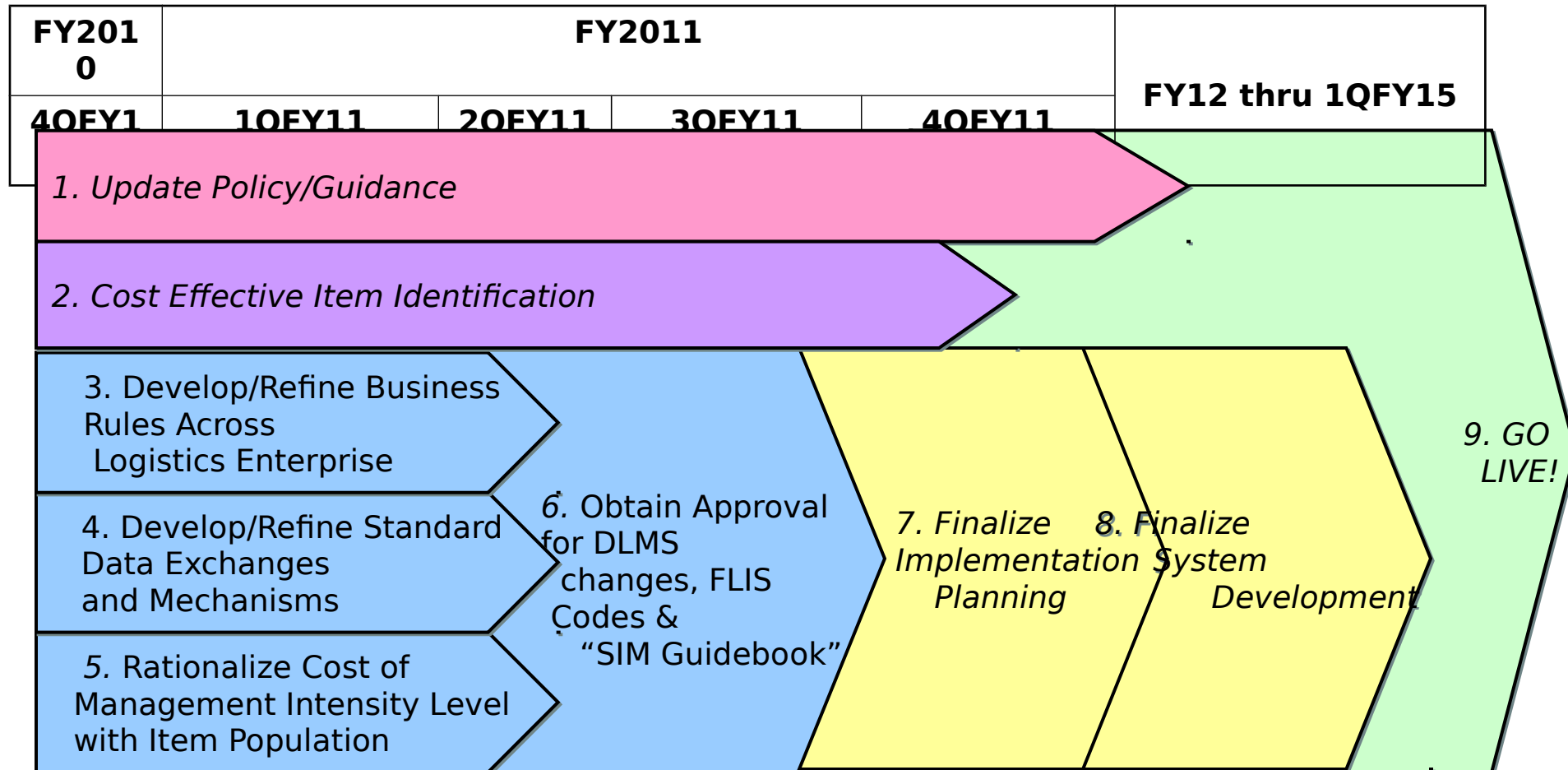
(b) For **standard management intensity items** (DoD serially managed items that are also sensitive or pilferable or DoD serially managed critical safety and depot level reparable):

1. Receipt, issue or balance-affecting actions to the storage site asset balance record will be conducted by UII within NSN at the storage site. Physical inventory at the storage site can be performed by NSN or by UII within NSN. The materiel manager asset balance record will continue to be updated and maintained by NSN.
2. Issuing activities will provide shipment notification or shipment accompanying documentation to the recipient identifying the NSN and UII provided.
3. When wholesale stocks are issued, whether from stock or direct delivery, the recipient will update asset records by UII within NSN, but will acknowledge receipt back to the wholesale materiel manager by NSN only.



The Way Ahead

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The Way Ahead (continued)

1. Update Policy/Guidance

- Update DoDI 8320.04
- Update DoDI 4151.19
- Update DoDM 4140.01-M
- Update GFP/CAP Policy & Procedures
- Update DFARS Clauses 211.7003 & 211.7007

2. Cost Effective Item Identification

- Develop/issue guidance on items that require tech. data
- Develop tools that reduce the cost of tech. data updates

3. Develop/Refine Business Rules Across Logistics Enterprise

- Conduct workshops and draft "SIM Guidebook"
- Revise IUID in Maintenance CONOPs

5. Rationalize Cost of Management Intensity Level with Item Population

- Provide processing costs estimates for evaluation of the levels of

6. Obtain Approval for DLMS changes, FLIS Codes & "SIM Guidebook"

- Publish "SIM Guidebook"
- Publish FLIS Code and update catalog procedures
- Publish approved DLMS changes

4. Develop/Refine Standard Data Exchanges and Mechanisms



The Way Ahead (continued)

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7. Finalize Implementation Planning

- Fund transition to management by UII and sustainment thereof
- Perform engineering analysis for marking
- Attrit unmarked legacy items
 - Facilitated by storing unmarked legacy items in a separate location
- Ensure new/modified contracts require:
 - Item mark (MIL-STD-130)
 - Exterior package identification labeling (MIL-STD-129)
 - Engineering analysis to determine marking location
 - WAWF Clause
- Purchase and install 2D data matrix and PDF 417 scanning/reading/marketing equipment for appropriate sites



The Way Ahead (continued)

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8. Finalize System Development

- Modify legacy systems/ERPs to incorporate business rules, processes and standard data exchanges as defined in the “SIM Guidebook”:
 - Use IUID serial number (i.e., UII) constructs
 - Integrate FLIS code for IUID as part of standard cataloging interface
 - Populate NSNs within FLIS with proper IUID code
 - Implement systems changes to support new business processes
 - DLMS transactions including UII capability
 - Program discrepancy/deficiency processing for missing, mismatched and non compliant UII conditions
 - Program reconciliation processing to resolve mismatched UIIs
- Modify FLIS to:
 - Provide IUID flag via master data and ultimately as part of FLIS
 - Accept new IUID flag values through standard cataloging interface with legacy systems/ERPs
 - Must accommodate business processes from provisioning to disposal



Next Steps

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- Develop “SIM Guidebook – OSD by Jun 2011
- Revise DoD issuances and DFARS – OSD by Dec 2012
- Define IUID requirements for the ERPs – Services and DLA thru 2QFY12
- Develop and field capabilities to intensively manage items in compliance with “SIM Guidebook” – Services and DLA thru FY12 and beyond
- Continue with legacy marking efforts – Services and DLA by Dec 2015
- Field use of IUID in business processes and systems – Services and DLA by Dec 2015



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Questions?



Definition of Principal & Secondary Inventory Items from DoD 4140.1-R

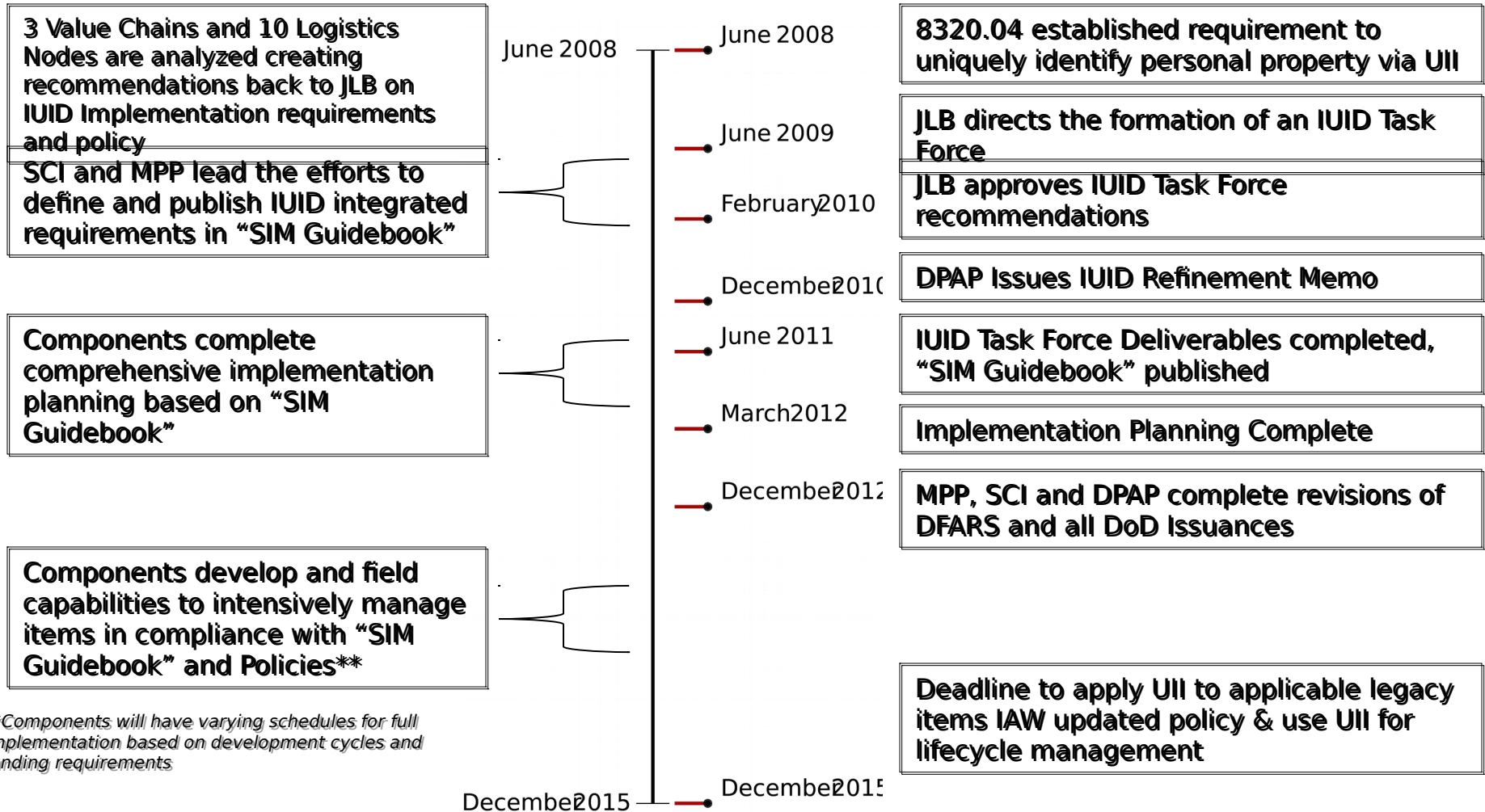
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- **Principal Item**
 - An end item or a replacement assembly of such importance to operational readiness that management techniques require centralized individual item management throughout the supply system to include items stocked at depot level, base level, and using unit level
- **Secondary Item**
 - An item that is not defined as a principal item and includes reparable components, subsystems, and assemblies, consumable repair parts, bulk items and material, subsistence, and expendable end items, including clothing and other personal gear



IUID Timeline for Secondary Inventory Items

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**Components will have varying schedules for full implementation based on development cycles and funding requirements

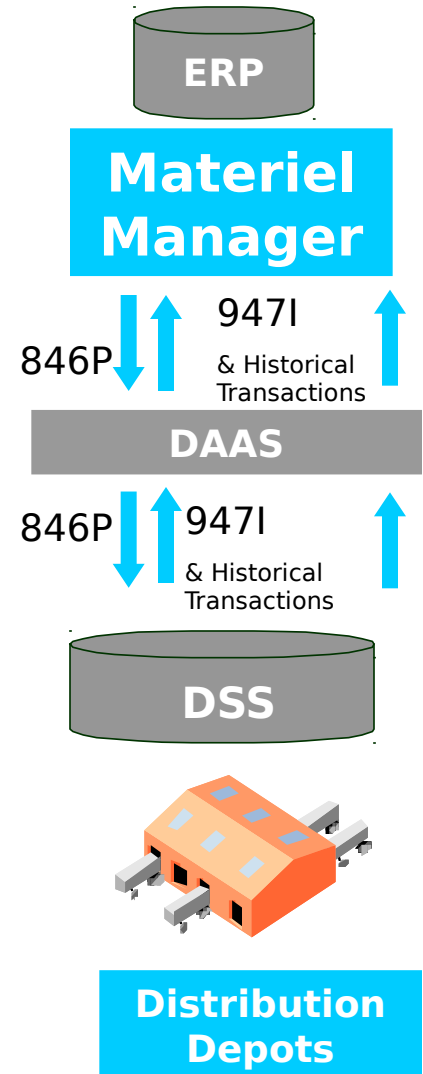


Physical Inventory Control Program for UII Items (Depot) – Additional System Requirements

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1. Owner/Manager initiates scheduled and special physical inventories using the Physical Inventory Request (846P) which is sent to the depot
2. Depots initiate scheduled, special, and spot physical inventories by UII. Inventory line item will be defined as stock number + supply condition code + UII. **(H, S)** (see Note)
 - a. Spot Inventory initiated due to a total or partial denial.
 - b. Special inventory initiated owner/manager or depot as a result of location survey, location reconciliation, unresolved mismatches, etc.
3. Depot must verify, by physical location, all UIIs against the accountable record **(H, S)**
 - a. Results of UII differences are reported to the owner/manager via 947I. Details for reporting UII differences to the owner/manager must be determined (e.g., when only UII has mismatches - no quantity or condition change) **(H)**
 - b. **Mismatches on UII-- Causative research is required on any discrepancies found as a result of the inventory.** **(H, S)**
4. Owner/Manager must verify reported UII against their record **(H)**
 - a. **Mismatches require new reconciliation procedures of UIIs between owner record and depot accountable record.**
5. Owner/Manager requests a transaction history via a 846P and the depot responds with the historical balance affecting transactions (527R 867I, 945A, and 947I all with the UII included) **(H)**

Note: H (High), S (Standard) = Notional FLIS IUID Designator Levels



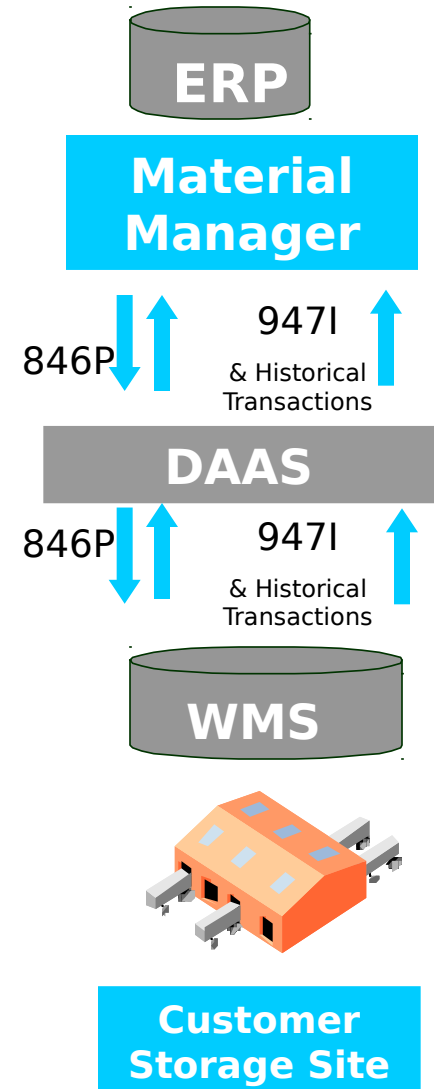


Physical Inventory Control Program for UII Items (Below Wholesale) – Additional System Requirements

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1. Owner initiates scheduled and special physical inventories using the Physical Inventory Request (846P) which is sent to the depot
2. Below wholesale sites initiate scheduled, special, and spot physical inventories by UII. Inventory line item will be defined as stock number + supply condition code + UII. **(H, S)** (see Note)
 - a. Spot Inventory initiated due to a total or partial denial.
 - b. Special inventory initiated owner or depot as a result of location survey, location reconciliation, unresolved mismatches, etc.
3. Below wholesale sites must verify, by physical location, all UIIs against the accountable record **(H, S)**
 - a. Results of UII differences are reported to the owner via 947I. Details for reporting UII differences to the owner/manager must be determined (e.g., when only UII has mismatches - no quantity or condition change) **(H)**
 - b. Mismatches on UII-- Causative research is required on any discrepancies found as a result of the inventory (H, S)**
4. Owner must verify reported UII against their record **(H)**
 - a. Mismatches require new reconciliation procedures of UIIs between owner record and storage site accountable record.**
5. Owner requests a transaction history via a 846P and the depot responds with the historical balance affecting transactions (527R 867I, 945A, and 947I all with the UII included) **(H)**

Note: H (High), S (Standard) = Notional FLIS IUID Designator Levels



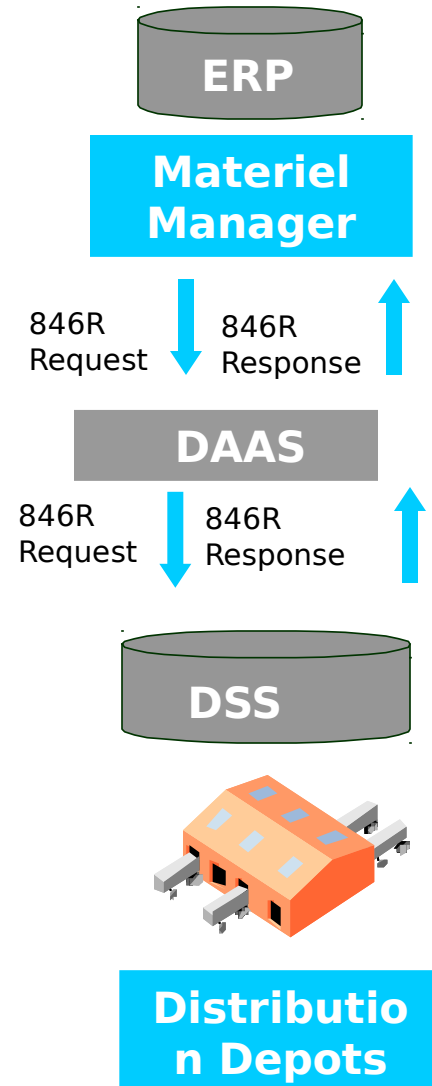


Physical Inventory Control Program/Record Reconciliation Program for High Intensity UII Items

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1. Record Reconciliation Program. Each DoD Component shall implement a record reconciliation program that shall consist of both a location survey and a location reconciliation
 - a. Location Reconciliation. Location reconciliation requires a match between depot records and owner/manager records, in order to identify and to correct situations when there is: (1) an owner record with no corresponding depot record, (2) a depot record with no corresponding owner/manager record, (3) common elements of data that do not match, and (4) quantity discrepancies. Mismatches shall be researched and special inventories conducted when required to effect corrective action.
 - 1) Depots will be required to conduct location reconciliations (annual and end of day) with the owner by UII (see Note)
 - a) There is a systems impact but not an operational impact to include UII (record to record match).
 - b) UII records mismatch logic must be determined.**
 - b. Location Survey. Location survey requires a physical verification, other than actual count, between assets and recorded location data to ensure all assets are properly recorded. When a discrepancy is identified during the location survey program, the depot shall conduct prompt research and determine need for a special inventory.
 - 1) Depot will not conduct location surveys by UII
 - 2) Process does not require quantity verification

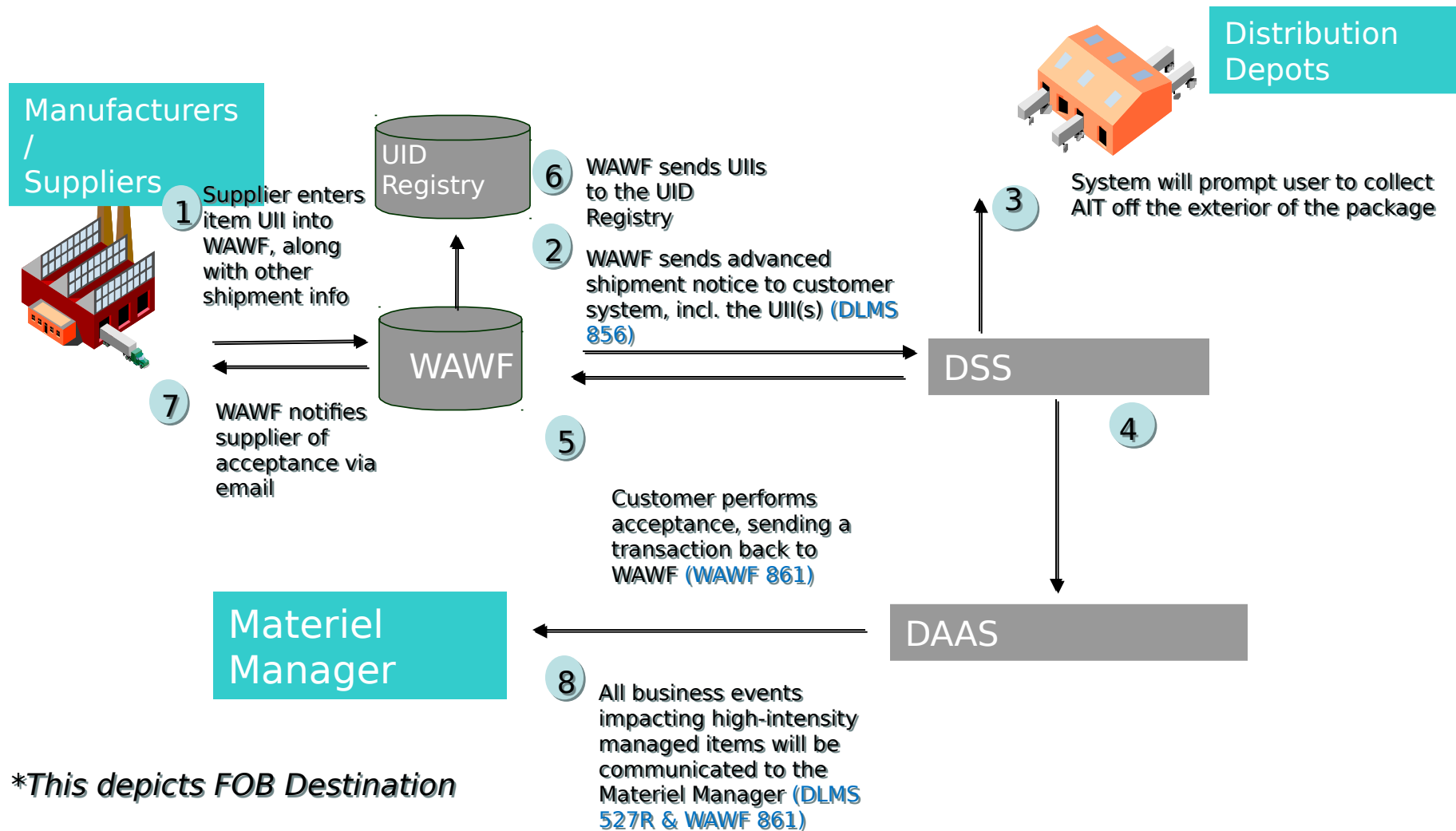
Note: If UII is not included in the location reconciliation there is no way to be assured that both the owner and depot have the same UIIs on their respective records; even if the quantities match.





RECEIPT USING IUID, e.g. DLA Distribution Center receives new procurement items by UII from the commercial vendor*

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*This depicts FOB Destination



ISSUE USING IUID, e.g. DLA Distribution Depots issue items to maintenance based on receipt of a Materiel Release Order (MRO)

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